BMP #119 - Vehichle/Equipment Washing and Maintenance

DESCRIPTION

A typical system is a lined, depressed area that collects the water used in washing off the trucks, cars, or other construction vehicles/machinery, and drains it into a collection or treatment system.

Targeted Pollutants

- ● Sediment
- ● Phosphorus
- ● Trace metals
- ○ Bacteria
- ● Petroleum hydrocarbons

APPLICATIONS

A wash down area is used on projects where the soil is silty or heavy in clay, and has the likelihood of transporting dirt and mud offsite. Projects that will take place over the course of the rainy season, and areas where water is expected to be encountered (high ground water table) in the normal course of the project should be considered as candidates.

Physical Limits

Drainage area	N/A
Max slope	5%
Min bedrock depth	N/A
Min water table	N/A
SCS soil type	N/A
Freeze/Thaw	N/A
Drainage/Flood control	no

LIMITATIONS

Washing vehicles generates liquid, semi-solid and solid wastes. These wastes must be contained on-site or treated to prevent pollution of surface and ground water.

Off-site: Treatment is required for all discharges to waters of the State since it could be contaminated with degreasers, hydrofluoric acid, hydrochloric acid, nitric acid, phosphoric acid, oil, hydraulic fluids, lubrication, and engine cleaning solvents. Waters of the State are all surface waters (canals, rivers, ponds, streams and lakes), and all ground water.

Contact the local permitting authority to determine proper disposal methods.

On-site: If wash water discharge to a sediment pond is the system of choice, sufficient acreage is required for the operation.

DESIGN PARAMETERS

Detergents used for vehicle washing should not contain phosphates. Phosphates are a plant nutrient that can cause excessive growth of aquatic plants when discharged into a stream or lake.

A stabilized construction entrance and road (BMP #114), to reduce off-site tracking of mud, dirt and rocks, should be installed at the vehicle wash/maintenance area. Washing and maintenance should be conducted in disturbed areas (staging area), but not in a cut or fill area until grading has been performed, and not where there

will be a high volume of construction traffic. Highly erodible soils or frequently wet areas should be avoided.

Off-site discharge options:

- Lagoon: Pond-like structure that works on the principle of evaporation, is easy to install and requires low maintenance. There is a need to be aware of safety issues (fencing the area from the public).
- Land application system: Large land area is required. This alternative is the lowest in out-of-pocket cost.
- Filtering and recycling of wash water: A good option for conservation measures. Initially, expense would be high. Monitoring of the operation would be more intensive.
- Municipal waste water treatment plant: This option is available only in areas where a municipal waste water treatment plant exists and the operation is capable of handling the load. This is the best option for limiting liability for larger construction projects.

CONSTRUCTION GUIDELINES

Designate an area that can be graded and bermed. The design should collect waste water for evaporation or direct it to an off-site containment or treatment system. A lined pond should be used where pollutants such as oil, grease, fuels, etc., may reach the high ground water table.

MAINTENANCE

Check system for integrity. Are the controls working as designed? Clean up sediments that have been tracked by vehicles onto nearby roadways.